Claims

CANCEL CLAIMS 1-15 AND ADD CLAIMS 16-32

16. A method for providing quasi-continuous transmission of a temporally variable parameter to initiate an operationally related function in a control and data transmission system, comprising the following steps:

transmitting at least one element of information at discrete time intervals via a transmission medium to a receiver, and

determining a time characteristic of the temporarily variable parameter at least approximately in a processing device connected downstream of the receiver, by taking account of the at least one information element,

the transmitted information being a discrete value of the temporally variable parameter and the time characteristic being determined at least approximately by taking account of at least two transmitted discrete values of the temporarily variable parameter.

17. The method as claimed in claim 16, wherein the transmitted information is a discrete value of a parameter, which defines the time characteristic of the temporarily variable parameter in a predefined manner, which initiates the operationally related function.

18. The method as claimed in claim 17, wherein the temporarily variable parameter defines the time characteristic of an allocation stored in the processing device.

19. The method as claimed in claim 16, wherein the time characteristic of the parameter is determined by interpolation.

20. The method as claimed in claim 19, wherein the interpolation is selected from linear installation, polynomial interpolation and spline interpolation.

21. The method as claimed in claim 16, wherein the operationally related function is initiated in response to the determined time characteristic of the temporarily variable parameter.

22. The method as claimed in claim 16, wherein the determined parameter is used as an input parameter for a control circuit.

23. The method as claimed in claim 16, wherein the operationally related function is initiated at a time t_x, at which the determined parameter attains at least a predefined limited value.

24. The method as claimed in claim 16, wherein the parameter is a measure of the position of an object driven to movement, and the drive is de-activated to achieve a predefined position of the object.

25. The method as claimed in claim 16, wherein a time marker is transmitted to the receiver simultaneously with the parameter or information.

26. The method as claimed in claim 16, wherein determining the time characteristic of the parameter, a time shift t_0 occurs which essentially corresponds to the time delay caused by the transmission of the information via the transmission medium.

27. The method as claimed in claim 17, wherein determining the time characteristic of the parameter in the period between the reception of values comprises the cyclical performance of the following steps:

a) forming the difference between the last two received or calculated values of the parameter

b) dividing the difference calculated according to step a) by the difference between the times at which the two values were received,

c) adding the time period elapsed since the time when the last value of the parameter to t_0 was received,

d) multiplying the results obtained according to steps b) and c) above, and

e) adding the last obtained value of the parameter to the result calculated according to

step d).

28. The method as claimed in claim 17, wherein determining the time characteristic of the temporarily variable parameter in the period between the reception of values comprises the cyclical performance of the following steps:

a) adding the time period which has elapsed since the last value was received to t_0 to produce a time period t_d, and

b) determining the instantaneous value of the parameter from the time period t_d and the predefined allocation between the time period and the parameter.

29. A control and data transmission system to carry out a method as claimed in claim 16, comprising at least

a control device to control

I/O components via

an automation bus,

a processing device, which is set up for at least approximate determination of the time characteristic of the parameter, taking account of at least two information elements transmitted via the automation bus, connected to at least one I/O component, and

a device that performs an operationally related function in response to the time characteristic of the parameter.

30. The control and data transmission system as claimed in claim 29, wherein the processing device comprises a logic device to carry out interpolation or regression on the basis of transmitted discrete values (S_0, S_1, ... S_5) of the parameter to determine the time characteristic of the parameter.

31. The control and data transmission system as claimed in claim 29, wherein the processing

device comprises a device in which an allocation of the information transmitted via the bus and a time period for the time characteristic of the parameter is stored in at least one of hardware and software implementation.

32. The control and data transmission system as claimed in claim 29,wherein a sensor records the position of a driven object, said position being discretely transmitted via the bus, and the drive is controlled in response to the determined time characteristic of the position.